Filing Date: April 12, 2004

Title: ELECTRODE AND CONDUCTOR INTERCONNECT AND METHOD THEREFOR

IN THE CLAIMS

Please amend the claims as follows.

1-43. (Canceled)

44. (New) A lead assembly comprising:

an elongate body extending from an elongate body proximal end to an elongate body distal end, the elongate body surrounded by an outer insulative body;

a coiled conductor extending from the elongate body proximal end toward the elongate body distal end, the conductor disposed within the outer insulative body;

a first inner electrode disposed within the outer insulative body, the first inner electrode including:

an annular recessed portion, the annular recessed portion extends from a proximal end of the first inner electrode to an intermediate portion of the first inner electrode, and a conductor distal tip extends annularly around the annular recessed portion, and

an annular stepped portion, the annular stepped portion extends from the intermediate portion of the first inner electrode toward a distal end of the first inner electrode, and the annular portion is raised relative to the annular recessed portion;

a second outer electrode positioned around the annular stepped portion and the conductor distal tip, the second outer electrode is adjustable between a non-engaged orientation where the second outer electrode is not engaged with the first inner electrode, and an engaged orientation where the second outer electrode is annularly engaged around the annular stepped portion and the conductor distal tip, in the engaged orientation the conductor distal tip is annularly engaged between the second outer electrode and the first inner electrode and held therein, and the first inner electrode and second outer electrode isolate the conductor portion from the elongate body; and

wherein the second outer electrode includes an outer surface, and the outer surface maintains an identical non-deformed geometry in the non-engaged orientation and the engaged orientation. Serial Number: 10/822,604 Filing Date: April 12, 2004

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45. (New) The lead assembly of claim 44, wherein the outer surface of the second outer electrode includes a coating, and the coating extends continuously over the outer surface in the non-engaged orientation and the engaged orientation.

- 46. (New) The lead assembly of claim 45, wherein the coating includes an IrOx coating.
- 47. (New) The lead assembly of claim 44, wherein the second outer electrode includes a second outer electrode distal tip, and the first inner electrode includes a first inner electrode distal tip, and the second outer electrode distal tip directly overlays the first inner electrode distal tip.
- 48. (New) The lead assembly of claim 47, wherein a reflow weld extends between the first inner electrode distal tip and the second outer electrode distal tip.
- 49. (New) The lead assembly of claim 44, wherein the first inner electrode includes a second conductor lumen, and a second conductor extends through the second conductor lumen toward the elongate body distal end remote from the first inner electrode and the second outer electrode.
- 50. (New) The lead assembly of claim 44, wherein at least one of a first inner electrode outer surface and a second outer electrode inner surface include conductor insulation disruption features.
- 51. (New) The lead assembly of claim 50, wherein a reflow weld extends between the conductor distal tip and the annular stepped portion, and the insulation disruption features grasp a conductor distal portion proximal to the conductor distal tip and the reflow weld, and the insulation disruption features immobilize the conductor distal tip and the first inner electrode at the reflow weld.
- 52. (New) The lead assembly of claim 44, wherein at least a portion of at least one of the first inner electrode and the second outer electrode are formed of shape memory material, and the

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shape memory material moves one of the first inner electrode and the second outer electrode between the non-engaged orientation and the engaged orientation.

- (New) The lead assembly of claim 44, wherein at least one of the first inner electrode 53. and the second outer electrode are magnetically swaged to move one of the first inner electrode and the second outer electrode between the non-engaged orientation and the engaged orientation.
- (New) The lead assembly of claim 44, wherein the second outer electrode includes a ring 54. electrode.

55. (New) A lead assembly comprising:

an elongate body extending from an elongate body proximal end to an elongate body distal end, the elongate body surrounded by an outer insulative body;

a coiled conductor extending from the elongate body proximal end toward the elongate body distal end, the coiled conductor includes a conductor distal portion extending proximally from a conductor distal tip, and the coiled conductor is disposed within the outer insulative body; an electrode interconnect assembly including:

a first inner electrode having an annular recessed portion and an annular stepped portion, the conductor distal portion extends around the annular recessed portion, and the conductor distal tip is coupled with a first reflow weld to at least the annular stepped portion, and

a second outer electrode positioned around the annular stepped portion and the conductor distal portion, the second outer electrode is annularly engaged around the annular stepped portion and the conductor distal portion; and

wherein the conductor distal portion is continuously annularly engaged between the first inner electrode and the second outer electrode from the conductor distal tip along the conductor distal portion.

(New) The lead assembly of claim 55, wherein the second outer electrode includes a 56. second outer electrode outer surface, and the second outer electrode outer surface has an

isodiametric geometry from a second outer electrode proximal end to a second outer electrode distal end.

- (New) The lead assembly of claim 55, wherein the second outer electrode includes a 57. second outer electrode distal tip, and the first inner electrode includes a first inner electrode distal tip, and the second outer electrode distal tip directly overlays the first inner electrode distal tip.
- (New) The lead assembly of claim 52, wherein a second reflow weld extends between 58. the first inner electrode distal tip and the second outer electrode distal tip.
- (New) The lead assembly of claim 58, wherein the second reflow weld includes a laser 59. weld.
- (New) The lead assembly of claim 55, wherein the first reflow weld extends only 60 between the conductor distal tip and the annular stepped portion.
- (New) The lead assembly of claim 55, wherein the first reflow weld is positioned 61. between the conductor distal tip and a proximal end of the annular stepped portion.
- (New) The lead assembly of claim 55, wherein the first reflow weld extends at least 62 partially around the annular stepped portion and the conductor distal tip.
- (New) The lead assembly of claim 55, wherein the first inner electrode includes a second 63. conductor lumen, and a second conductor extends through the second conductor lumen toward the elongate body distal end remote from the first inner electrode and the second outer electrode.
- (New) The lead assembly of claim 55 further comprising conductor insulation disrupting 64. features disposed between the first inner electrode and the second outer electrode, and the conductor insulation disrupting features are engaged against a portion of the outer insulative body adjacent to the conductor distal portion.

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(New) The lead assembly of claim 64, wherein the insulation disruption features grasp 65 the conductor distal portion proximal to the conductor distal tip and the first reflow weld, and the insulation disruption features immobilize the conductor distal tip and the first inner electrode at the first reflow weld.

- (New) The lead assembly of claim 55, wherein a second outer electrode outer surface includes a chemically coated surface.
- (New) The lead assembly of claim 66, wherein the chemically coated surface includes 67. titanium oxide.
- (New) The lead assembly of claim 66, wherein the chemically coated surface extends 68. continuously over a second outer electrode outer surface from a second outer electrode proximal end to a second outer electrode distal end.